

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-72 have been cancelled, without prejudice.

73. (New) Electro-stimulation apparatus, comprising an electric-pulse generating device arranged to generate pulses having preset values of typical parameters, an applying arrangement arranged to apply a sequence of said pulses to an organism, said sequence comprising an initial pulse and a final pulse, wherein it further comprises a variation arrangement arranged to perform a substantial variation of at least one typical parameter at a moment comprised between said initial pulse and said final pulse.
74. (New) Apparatus according to claim 73, wherein said variation arrangement comprises means for causing a sudden decrease in the value of said at least one typical parameter.
75. (New) Apparatus according to claim 74, wherein said generating device comprises means for causing a gradual increase in the value of said at least one typical parameter, before said sudden decrease.
76. (New) Apparatus according to claim 75, wherein during said gradual increase progressive increments of said at least one typical parameter are provided, said

progressive increments being smaller than said sudden decrease by an order of magnitude.

77. (New) Apparatus according to claim 74, wherein said generating device comprises means for causing a further gradual increase in the value of said at least one typical parameter, after said sudden decrease.
78. (New) Apparatus according to claim 73, wherein said variation arrangement comprises means arranged to vary the frequency of said pulses.
79. (New) Apparatus according to claim 78, wherein said variation arrangement causes a frequency variation of at least 20 Hz.
80. (New) Apparatus according to claim 79, wherein said variation arrangement causes a frequency variation greater than 40 Hz.
81. (New) Apparatus according to claim 80, wherein said variation arrangement causes a frequency variation greater than 60 Hz.
82. (New) Apparatus according to claim 73, wherein said variation arrangement is so configured as to actuate said substantial variation when a spasm condition of a muscle stimulated in said organism is reached.

83. (New) Apparatus according to claim 73, wherein said variation arrangement is so configured as to actuate said substantial variation when a frequency is reached at which a major release of growth factors, particularly of VEGF, occurs.
84. (New) Apparatus according to claim 73, wherein said generating device is so arranged as to generate within said sequence first pulses having a gradually increasing frequency according to a first increment, and second pulses having a gradually increasing frequency according to a second increment, said second increment being greater than said first increment.
85. (New) Apparatus according to claim 84, wherein said second increment is greater by an order of magnitude than said first increment.
86. (New) Apparatus according to claim 84, wherein said sequence comprises, between said first pulses and said second pulses, an intermediate series of pulses with a substantially constant frequency.
87. (New) Apparatus according to claim 86, wherein said intermediate series comprises pulses having a pulse width oscillating between a maximum and a minimum value, said maximum value being substantially equal to twice said minimum value.

88. (New) Apparatus according to claim 73, wherein after said variation said at least one typical parameter remains constant for a number of sub-phases.
89. (New) Apparatus according to claim 73, wherein said generating device is arranged to generate a further sequence of electrical pulses after said sequence, so that said variation is repeated more than once.
90. (New) Apparatus according to claim 73, wherein said variation arrangement comprises means arranged to vary the width of said pulses.
91. (New) Apparatus according to claim 90, wherein said variation arrangement is so configured as to increase the width of said pulses by applying percentage increments of the current width value.
92. (New) Apparatus according to claim 91, wherein said percentage increments are selected from a group consisting of: 20% of the current width value, 25% of the current width value, 33% of the current width value, 50% of the current width value.
93. (New) Apparatus according to claim 91, wherein between a percentage increment and the subsequent percentage increment a time interval occurs which is randomly selected.

94. (New) Apparatus according to claim 93, wherein said time interval can be varied between 15 s and 60 s.
95. (New) Apparatus according to claim 94, wherein the width of said pulses is increased up to a maximum value of about 90-100 μ s.
96. (New) Apparatus according to claim 73, wherein said sequence is defined by parameters selected from a group consisting of: the sequence in Figure 1, the sequence in Figure 2, the sequence in Figure 3, the sequence in Figure 8 and 9.
97. (New) Method of electro-stimulating an organism, comprising generating a sequence of electric pulses having preset values of typical parameters, said sequence comprising an initial pulse and a final pulse, and applying said sequence to said organism, wherein said generating comprises considerably varying at least one typical parameter at a moment comprised between said initial pulse and said final pulse.
98. (New) Method according to claim 97, wherein said varying comprises suddenly decreasing the value of said at least one typical parameter.
99. (New) Method according to claim 98, wherein said generating comprises gradually increasing the value of said at least one typical parameter, before said suddenly decreasing.

100. (New) Method according to claim 99, wherein during said gradually increasing progressive increments of said at least one typical parameter are applied, said progressive increments being smaller than the decrease applied during said suddenly decreasing by an order of magnitude.
101. (New) Method according to claim 98, wherein said generating comprises further gradually increasing the value of said at least one typical parameter, after said suddenly decreasing.
102. (New) Method according to claim 97, wherein said varying comprises modifying the frequency of said pulses.
103. (New) Method according to claim 102, wherein said modifying causes a frequency variation of at least 20 Hz.
104. (New) Method according to claim 103, wherein said modifying causes a frequency variation greater than 40 Hz.
105. (New) Method according to claim 104, wherein said modifying causes a frequency variation greater than 60 Hz.
106. (New) Method according to claim 97, wherein said varying occurs when a spasm condition of a muscle stimulated is reached in said organism.

107. (New) Method according to claim 97, wherein said varying takes place when a frequency is reached at which a major release of growth factors, particularly of VEGF, occurs.
108. (New) Method according to claim 97, wherein said generating comprises providing within said sequence first pulses having a gradually increasing frequency according to a first increment, and second pulses having a gradually increasing frequency according to a second increment, said second increment being greater than said first increment.
109. (New) Method according to claim 108, wherein said second increment is greater by an order of magnitude than said first increment.
110. (New) Method according to claim 108, wherein said sequence comprises, between said first pulses and said second pulses, an intermediate series of pulses with a substantially constant frequency.
111. (New) Method according to claim 110, wherein said intermediate series comprises pulses having a width oscillating between a maximum and a minimum value, said maximum value being substantially equal to twice said minimum value.

112. (New) Method according to claim 97, wherein after said varying, said at least one typical parameter is kept constant for a number of sub-phases.
113. (New) Method according to claim 97, wherein said generating comprises further generating a further sequence of electrical pulses, so that said varying is repeated more than once.
114. (New) Method according to claim 97, wherein said varying comprises modifying the width of said pulses.
115. (New) Method according to claim 114, wherein said modifying comprises increasing the width of said pulses by applying percentage increments of the current width value.
116. (New) Method according to claim 115, wherein said percentage increments are selected from a group consisting of: 20% of the current width value, 25% of the current width value, 33% of the current width value, 50% of the current width value.
117. (New) Method according to claim 116, wherein between a percentage increment and the subsequent percentage increment a time interval occurs which is randomly selected.

118. (New) Method according to claim 117, wherein said time interval can be varied between 15 s and 60 s.
119. (New) Method according to claim 114, wherein the width of said pulses is increased up to a maximum value of about 90-100 μ s.
120. (New) Method according to claim 97, wherein said sequence is defined by parameters selected from a group consisting of: the sequence in Figure 1, the sequence in Figure 2, the sequence in Figure 3, the sequence in Figures 8 and 9.
121. (New) Support readable by a data processing device, containing a plurality of data with preset values of typical parameters, said data being intended to originate a sequence of electric pulses to be applied to an organism by means of electro-stimulation techniques, said sequence comprising an initial pulse and a final pulse, wherein a substantial variation of at least one typical parameter is provided in said sequence at a moment comprised between said initial pulse and said final pulse.
122. (New) Support according to claim 121, wherein said variation comprises a sudden decrease in the value of said at least one typical parameter.

123. (New) Support according to claim 122, wherein said sequence comprises a gradual increase in the value of said at least one typical parameter, before said sudden decrease.
124. (New) Support according to claim 123, wherein during said gradual increase progressive increments of said at least one typical parameter are provided, said progressive increments being smaller than said sudden decrease by an order of magnitude.
125. (New) Support according to claim 122, wherein said sequence comprises a further gradual increase in the value of said at least one typical parameter, after said sudden decrease.
126. (New) Support according to claim 121, wherein said variation comprises a sudden change in the frequency of said pulses.
127. (New) Support according to claim 126, wherein said sudden change is of at least 20 Hz.
128. (New) Support according to claim 127, wherein said sudden change is greater than 40 Hz.

129. (New) Support according to claim 128, wherein said sudden change is greater than 60 Hz.
130. (New) Support according to claim 121, wherein said variation is provided when said at least one typical parameter reaches a value that causes a condition of spasm of a stimulated muscle in said organism.
131. (New) Support according to claim 121, wherein said variation is provided when said at least one typical parameter reaches a value at which a major release of growth factors, particularly of VEGF, occurs.
132. (New) Support according to claim 121, wherein said sequence comprises first pulses with a gradually increasing frequency according to a first increment, and second pulses with a gradually increasing frequency according to a second increment, said second increment being greater than said first increment.
133. (New) Support according to claim 132, wherein said second increment is greater by an order of magnitude than said first increment.
134. (New) Support according to claim 132, wherein said sequence comprises, between said first pulses and said second pulses, an intermediate series of pulses with a substantially constant frequency.

135. (New) Support according to claim 134, wherein said intermediate series comprises pulses having a pulse width oscillating between a maximum and a minimum value, said maximum value being substantially equal to twice said minimum value.
136. (New) Support according to claim 121, wherein after said variation said at least one typical parameter remains constant for a number of sub-phases.
137. (New) Support according to claim 121, containing data that enable a further sequence of electrical pulses to be generated after said sequence, so that said variation is repeated more than once.
138. (New) Support according to claim 121, wherein said variation comprises a sudden change in the width of said pulses.
139. (New) Support according to claim 138, wherein said width is increased by applying percentage increments of the current width value.
140. (New) Support according to claim 139, wherein said percentage increments are selected from a group consisting of: 20% of the current width value, 25% of the current width value, 33% of the current width value, 50% of the current width value.

141. (New) Support according to claim 136, wherein between a percentage increment and the subsequent percentage increment a time interval occurs which is randomly selected.
142. (New) Support according to claim 141, wherein said time interval can be varied between 15 s and 60 s.
143. (New) Support according to claim 138, wherein the width of said pulses is increased up to a maximum value of about 90-100 μ s.
144. (New) Support according to claim 121, wherein said sequence is defined by parameters selected from a group comprising: the sequence in Figure 1, the sequence in Figure 2, the sequence in Figure 3, the sequence in Figs 8 and 9.